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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/176,124	10/21/98	SCHNEIDER	G 10191/857

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IM62/1204

EXAMINER

TUNG, T

ART UNIT

PAPER NUMBER

1743

DATE MAILED:

12/04/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/176,124

Applicant(s)

SCHNEIDER ET AL

Examiner

T. TUNG

Group Art Unit

1743

Paper No. 13

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☐ Responsive to communication(s) filed on _____.
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-7 is/are pending in the application.
Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-7 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 - ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
 - ☐ received in Application No. (Series Code/Serial Number) _____.
 - ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

*Certified copies not received: _____.

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☐ Interview Summary, PTO-413
- ☐ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other _____

Office Action Summary

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Although applicant's request for CPA did not include directions to enter the proposed amendment of Sept. 11, 2000, that amendment has now been entered for consideration.

Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear what is a "functioning layer" and what is a "non-functioning....layer", as recited in claim 1. Every layer in applicant's sensor element has some function. For example layer 32 serves as a base or cover. Layer 26 serves to protect electrode 22.

Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamada '806 or Yamada '807.

Applicant argues that his claims distinguish over either Yamada in that they call for the heater to be disposed between a "functioning" layer and a "non-functioning" layer, whereas in the patents the heater is in each case disposed between "functioning" layers.

This argument is not persuasive. First, as discussed in the previous rejection, it is unclear what constitutes a "functioning" and a "non-functioning" layer. Applicant may not define over prior art by subject matter he himself does not clearly define.

Second, even if one were to construe "functioning" as the sensing function, either Yamada is still considered to read on applicant's claims. For instance, in fig. 9 of Yamada '806, one of the top and bottom layers is a pumping cell and the other is a concentration cell. One can construe the pumping cell layer as a "non-functioning" layer since it does not serve the sensing function per

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se. Or, of the two layers 7a and 7b that sandwich the heating layer, either one can be considered a "non-functioning" layer since it does not serve any sensing function. Similarly, in the '807 patent, the pumping cell layer, layer 6 or layer 3 can be regarded as a "non-functioning" layer.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider et al in view of Yamada '806 or Yamada '807, or alternatively, either Yamada in view of Schneider et al.

It would have been obvious for Schneider to locate the heating layer about half way between the top layer and the bottom layer in view of either Yamada, because such a heater location would permit equal distribution of heat to all portions of the sensors and minimize temperature gradient that may cause inaccurate measurement.

Or, it would have been obvious for either Yamada to adopt the sealing frame 26' of Schneier in order to hermetically seal the heater against oxidation, to adopt cover layer 10 of Schneider to provide diffusion resistance and protection for the external electrode, and to adopt bottom layer 29 of Schneider to serve as a base and to protect the heater layer.

Applicant argues that Schneider does not teach locating the heating layer half way up the sensor and that to do so by thickening base layer 29 would not be indicated since that can actually increase thermal stress.

This argument is not persuasive. Locating a heating layer half way is shown by either Yamada patent and would have been obviously desirable to one of ordinary skill of the art. As for thickening the base layer, that does not have to be the case. Half way location can be achieved by

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lessening the thickness of the other layers. Also, if a thickened base layer increases thermal stress, why is that not true of applicant's sensor, which shows a base layer 32 twice the thickness of either layer 16 or layer 18 (see the drawings).

Further, in the rejection with either Yamada as the primary reference, the heating layer is already located half way in the primary reference. There would be no reason to move that location simply because one is adopting certain features from the secondary reference Schneider that happens to show a heater location not at a half way location, since these features are unrelated to the heater location.

Claim 3 has been construed to call for the final product recited in its parent claim 1. The process for making the sensor element by sintering is conventional. See col. 8, lines 48-56 of Yamada '807 for example. In any event, the process for making the sensor is not seen to define any final product different from those of the references.

The examiner can be reached at 703-308-3329. His supervisor Jill Warden can be reached at 703-308-4037. Any general inquiry should be directed to the receptionist at 703-308-0661. A fax number for TC 1700 is 703-305-3599.

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Ta Tung

Primary Examiner

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